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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/607,193	06/27/2003	Lev Ryzhikov	1857.0910001	5795
26111	7590	11/03/2004	EXAMINER	
STERNE, KESSLER, GOLDSTEIN & FOX PLLC 1100 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			PRITCHETT, JOSHUA L	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 11/03/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/607,193	RYZHIKOV ET AL.	
	Examiner	Art Unit	
	Joshua L Pritchett	2872	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☒ Claim(s) 15 and 17 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 June 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>4/04, 6/04, 9/04</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Claim Objections

Claims 15 and 17 are objected to because of the following informalities: the claims do not end in a period. Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-7, 10 and 16 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi (US 5,861,997).

Regarding claim 1, Takahashi discloses a relay lens group comprising a first lens group (G1) having a plurality of lenses (Fig. 11); an aperture stop (6a); a second lens group (G2) having one lens (Fig. 11); a fold mirror (10) and a third lens group (G3) having one lens (Fig. 11).

Regarding claim 2, Takahashi discloses the first lens group comprises three lenses (Fig. 11).

Regarding claim 3, Takahashi discloses the first lens group having a meniscus lens (L11).

Regarding claim 4, Takahashi discloses the first lens group having an aspherical lens (L13).

Regarding claim 5, Takahashi discloses the one lens in the second lens group comprises one aspherical surface (L20; Fig. 11).

Regarding claim 6, Takahashi discloses the second lens group comprises one convex surface (Fig. 11). The surface of the lens (L20) contacting the mirror (M1) is convex with respect to the center of the lens (L20).

Regarding claim 7, Takahashi discloses the one lens in the third lens group comprises two spherical surfaces (L3B).

Regarding claim 10, Takahashi discloses the first lens group forms a front part of the relay lens (Fig. 11); the second group forms an intermediate part of the relay lens (Fig. 11) and the third lens group forms a field part of the relay lens (Fig. 11).

Regarding claim 16, Takahashi discloses lithography system comprising a light source a reticle (R) and a relay lens group comprising a first lens group (G1) having a plurality of lenses (Fig. 11); an aperture stop (6a); a second lens group (G2) having one lens (Fig. 11); a fold mirror (10) and a third lens group (G3) having one lens (Fig. 11). A light source is inherent to the Takahashi reference to supply the light rays shown in Fig. 11.

Claim Rejections - 35 USC § 103

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The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8, 9, 11-15 and 17 rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi.

Regarding claims 8, 9, 11 and 13, Takahashi teaches the invention as claimed but lacks reference to the second lens group having more than one lens. The determination of lens grouping is well within the ordinary skill level of the art. Therefore, by redistributing the lenses in the three groups, the number of lenses in each group may be changed, and hence the second lens group can be grouped to comprise three lenses (L1B, L1C, L20) following the redistribution. Absent any showing of criticality, as such, any particular lens grouping would have been an obvious choice of design to an artisan.

Regarding claim 12, Takahashi teaches both the lens and the second lens has an aspheric surface (Fig. 11).

Regarding claim 14, Takahashi teaches at least two lenses in the second lens group have at least one aspherical surface (Fig. 11).

Regarding claims 15 and 17, Takahashi teaches the invention as claimed but lacks reference to the lenses in the relay lens having the structure as claimed in the table. The values for the lenses provided in the claimed table can easily be obtained through the use of ordinary

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optics software and would be within the skill one of ordinary skill in the art. It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have the lenses of Takahashi meet the claimed lens structure for the purpose of optimizing the focus and the output of the relay lens.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua L Pritchett whose telephone number is 571-272-2318. The examiner can normally be reached on Monday - Friday 7:00 - 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew A Dunn can be reached on 571-272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

JLP 


DREW A. DUNN
SUPERVISORY PATENT EXAMINER